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ABSTRACT

This thesaurus is designed to provide the vocational education community and its relevant audiences with a comprehensive, organized listing of outcome questions and hypotheses. The first of two sections includes a discussion of the importance as well as problems of attempting to develop a classification system for categorizing vocational outcomes. It also explains how the outcome questions are classified and how the reader can locate outcome questions of interest. The second section contains 252 outcome questions categorized into three areas: (1) outcome questions having the individual as the affected entity, (2) outcome questions having social entities or society-in-general as affected entities, and (3) outcome questions having special needs sub-populations as affected entities. Outcome questions are further categorized according to educational level, and those that are economically or occupationally related and those non-economically related. Also included is an index of specific topics which identifies related outcome questions. (LRA)

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Research and Development Series No. 170

# VOCATIONAL EDUCATION OUTCOMES:
# A THESAURUS OF OUTCOME QUESTIONS

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in Vocational Education
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1979

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## FOREWORD

This thesaurus of vocational education outcome questions is one of the products from the first year of study in the project "Examining Vocational Education Outcomes and Their Correlates" undertaken at the National Center for Research in Vocational Education. One goal of this project is to identify outcome criteria which are appropriate for evaluating vocational education programs.

In general, the purpose of the thesaurus is to provide the vocational education community and other relevant audiences with a comprehensive, organized listing of outcome questions and hypotheses. These were obtained by exploring the literature and through discussions with parties interested in vocational education programs. The functions and possible uses of the thesaurus are considered in this report, which also discusses some of the substantive and stylistic problems that arise in developing a product of this nature. Moreover, Section I includes a discussion of the importance as well as problems of attempting to develop a classification system for categorizing vocational outcomes. It also explains how the outcome questions are classified in this thesaurus and how the reader can locate outcome questions of interest. Section II lists some 250 outcome questions, categorized according to education level and other considerations. This "Compendium of Vocational Education Outcome Questions" is followed by an "Index of Specific Topics" identifying some outcome questions that relate to a particular topic.

Vocational Education Outcomes: A Thesaurus of Outcome Questions originally appeared as Attachment "B" in Vocational Education Outcomes, Final Report on Year One of the R&D Project "Examining Vocational Education Outcomes and Their Correlates." The report was prepared at the National Center by Robert L. Darcy, Kathleen A. Bolland, and Joanne Farley with the assistance of Carolyn M. Taylor and submitted to the U.S. Office of Education in January 1979. Other components of the final report to be published as separate documents are listed on the inside back cover of this report.

In the development of the general report and its various components, a number of people made valuable contributions. Distinguished representatives from business, labor, and education who served on the National Workshop Panel on Vocational Education Outcomes were: Walter G. Davis, American Federation of Labor and Congress of Industrial Organizations; Mary Ellen Hillaire, Evergreen State College (Washington);

Addison S. Hobbs, Michigan Department of Education (now with the Maryland Department of Education); O. Louise Lothspeich, Oregon State Advisory Council on Vocational Education; Fred D. Mack, Central State University (Oklahoma); Gerald Q. Miller, Sharon Steel Corporation (Pennsylvania) and Employers National Job Service Improvement Committee; Phillip L. Smith, The Ohio State University; Jerry C. Olson, Pittsburgh Public Schools (Pennsylvania); Wallis E. Pereira, Industry Education Council of California; Clio S. Reinwald, Arizona Department of Education; Annell L. Simcoe, Rutgers University; and J. Robert Warmbrod, The Ohio State University.

We are also grateful to Douglas Sjogren of Colorado State University, Michael D. Hock of Worthington, Ohio, and Michael Scriven of the University of San Francisco, who served as consultants for the study and to the five members of the National Center's Evaluation Technical Advisory Panel--Carol B. Aslanian, College Entrance Examination Board; George C. Copa, University of Minnesota; Donald W. Drewes, Conserva Inc.; Ruth P. Hughes, Iowa State University; and Daniel L. Stufflebeam, Western Michigan University--for their ideas and encouragement.

On behalf of the National Center, I want to express appreciation to the Bureau of Occupational and Adult Education, U.S. Office of Education, for sponsoring the outcomes study; to Robert L. Darcy, Senior Research Specialist at the National Center for directing the overall project; and to Joanne Farley for preparing this thesaurus.

Robert E. Taylor
Executive Director
The National Center for Research
in Vocational Education

# VOCATIONAL EDUCATION OUTCOMES: A THESAURUS OF OUTCOME QUESTIONS[1]

## I. INTRODUCTION AND EXPLANATORY NOTES

### A. Definition and Purpose of the Thesaurus

Vocational education outcomes are broadly defined as the consequences of vocational programs. These consequences include the results of (a) a student's participation in a vocational program, and (b) the existence of ongoing vocational programs in the community. Outcomes may affect an individual student, institutions, society as a whole, or some particular segment of society such as taxpayers, employers, or members of local communities. Vocational programs may be at the secondary or postsecondary level; they include programs for adults and out-of-school youth. All results, consequences, impacts, or effects of vocational education are considered outcomes whether they are positive or negative in nature, intended or unintended, short-term or long-term, economic or noneconomic.

The Oxford English Dictionary defines a thesaurus as "a treasury or storehouse of knowledge as a dictionary, encyclopedia, or the like." The authors of a recently published Evaluation Thesaurus suggest that "Somewhere between a dictionary or glossary and an encyclopedia there is occasionally room for a thesaurus--'a book containing a store of words or information about a particular field or set of concepts' (Webster III)."[2] Implicit in both definitions is the

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[1]This thesaurus was prepared as part of the National Center's applied research and development project, "Examining Vocational Education Outcomes and Their Correlates," under a contract with the Bureau of Occupational and Adult Education, Office of Education, U.S. Department of Health, Education, and Welfare. Other products of this study include an evaluative bibliography of vocational education outcome studies, an annotated bibliography of literature related to vocational education outcomes, and an essay on evaluating vocational education with respect to outcomes. The author wishes to express appreciation to Jo Ann M. Steiger and Douglas Sjogren for their review of an earlier draft; to Pam Davis for her creative secretarial efforts; and special thanks to Robert L. Darcy, Kathleen A. Bolland, Carolyn M. Taylor, and other colleagues at the National Center for contributing outcome statements and for their helpful comments concerning the thesaurus.

[2]Michael Scriven and Jane Roth, Evaluation Thesaurus (Pt. Reyes, Calif.: Edgepress, 1977), Introduction.

suggestion that some organizing principle exists in a thesaurus that (a) sets the boundaries for inclusion of some information and the exclusion of other information, and (b) provides a means of access to the particular information desired by the reader. Given the above definitions then, a thesaurus of vocational education outcome questions is first, a collection of questions concerning the effects, results, or consequences that are in some way attributable to some aspect of vocational education. Secondly, it is a compilation of outcome questions to which some principle of organization applies that enables a reader to obtain desired information. The basis of organization of the thesaurus will be discussed in more detail below.

Some individuals have argued that the set of vocational education outcomes upon which many studies in evaluation have focused is too narrow. Other outcomes, they claim, should also be emphasized and studied. Moreover, not all of the consequences of vocational programs are anticipated or identified in advance as objectives. In attempting to formulate and/or evaluate vocational education policy, policy-makers and researchers need to know more about the wide range and diversity of effects of vocational education programs, regardless of whether those effects are related to intended goals or are unintended by-products of vocational education. Hence, it is most important that some kind of identification and articulation of possible vocational education outcomes be developed. A thesaurus of vocational education outcome questions can serve the following functions:

1. It can provide policy-makers and others with a comprehensive (but not exhaustive) listing of the possible outcomes that have been specified by persons closely related with vocational education through participation and/or research.

2. By providing policy-makers with information about the range and diversity of possible outcomes, the thesaurus can help them in their consideration of the goals that will be treated as desirable "given" consequences of vocational education policy.

3. Related to these functions is the role the thesaurus can serve in identifying outcomes for policy-makers and others that have gone unnoticed because they were not intended. A good deal of discussion has revolved around the question of how effective vocational education has been in achieving stated goals. However, it can be assumed that aside from the possible occurrence of outcomes that are officially deemed desirable, a host of other outcomes

occur that are not anticipated or even recognized. Furthermore, these outcomes may themselves result in "spillover" effects of various kinds--some of which may have significant results that need attention. Hence, recognition and articulation of hitherto unnoticed outcomes could have important policy consequences. Such questions as (1) which outcomes should be included in the set of "desirable and intended" outcomes and (2) what intended outcomes are to be given higher priority than others, cannot be rationally considered without taking into account the full range of outcomes that may possibly occur.

4. In terms of identifying those vocational education outcomes that possibly occur, this thesaurus can provide a valuable source of important and interesting research topics for investigators of vocational programs. As such the thesaurus can serve as a fruitful starting point from which to begin formulating and testing hypotheses relevant to vocational education processes and outcomes.

5. Moreover, the thesaurus can be used to develop checklists of those outcomes that may have actually been empirically studied and those that have never been systematically investigated.

6. For purposes of studies like that being undertaken by this R&D project, the thesaurus can provide a collection of varied outcome questions from which investigators can select not only interesting outcomes for study but also those that merit special attention due to their significance for the evaluation of vocational education. This is an important function because outcomes can serve as evaluative criteria beyond preannounced program objectives and can stimulate a reexamination of program implementation strategies and overall policy.

7. Finally, the thesaurus can help researchers concerned with particular groups (i.e., women, the physically handicapped, ethnic minorities, etc.) by focusing on specific questions pertinent to such groups. Should vocational programs relevant to these groups be evaluated along the same lines or with the same criteria used in evaluating programs for regular students? Are there some outcomes that affect the members of special groups but not regular students, or do outcomes affecting both the former and latter

differ in the nature of their impact on and/or significance to these groups? By identifying the outcome hypotheses applying to special groups, the thesaurus can provide a badly needed source of information with which to address these and other questions.

B. The Development of Outcome Statements and Questions

In developing the thesaurus, the project staff began by collecting a large number of outcome statements that took final form as outcome questions. Before discussing the reasons for reformulating the statements into questions, a brief discussion of the importance of outcome statements will be helpful.

We emphasize that outcome statements are different from vocational outcomes. The contrast between the two is significant. As defined above, a vocational outcome is some consequence, result, or effect of participation in and/or the existence of vocational education programs. Hence, an outcome is an occurrence that does in fact take place in the world. Indeed, it is quite possible that a number of vocational outcomes exist or occur which may never by perceived or suspected and consequently, about which statements will never be made. By contrast, an outcome statement is a claim about some possible outcome. It is a linguistic description of what is stated to be the case, i.e., a description of the possible outcome that someone is making claims about. Outcome statements may be considered either correct or incorrect (unlike an outcome which does or does not occur). An individual can posit the occurrence of an outcome in an outcome statement but the claim may be wholly inaccurate, partially inaccurate, or wholly accurate. As in the case of all hypothetical claims, statements positing the occurrence of an outcome may be supported by the results of empirical testing. The greater the number of tests that yield positive results in support of a hypothesis, the greater will be our confidence in the validity of correctness of the hypothesis. Nevertheless, our acceptance of an empirically tested outcome hypothesis will always remain tentative to some degree. This, then, is a thesaurus of vocational education outcome questions (or hypotheses) and not a thesaurus of outcomes that are posited as actually occurring.[3]

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[3]Hereafter, when referring to outcomes, we will in fact be referring to outcomes as they have appeared in an outcome statement, hypothesis, or question. Hence, if we state that

There is another reason for emphasizing that outcome statements are different from outcomes. Outcome statements not only attempt to articulate and describe the hypothesized outcome in question, but they may well provide us with other information as well. Typically, an outcome statement describes what happens to whom and how, and in some cases also indicates when, where, and why. At a minimum, an outcome statement must make reference to a vocational outcome, an "affected entity" and an "agent." An outcome statement should not be confused with a process or program description. The statement that "vocational programs offer courses in consumer education" is a description of an aspect of vocational processes. It does not indicate what the effect or the impact of offering such courses might be. By contrast is the statement that "as a result of participating in a vocational program, students acquire consumer knowledge." In the latter, a consequence of the provision by vocational programs of consumer education courses is being posited. It asserts that students not only utilize these courses but also that students do, in fact, gain a type of understanding in these courses. This is the "what" of the statement, i.e., the outcome itself.

The "affected entity" of an outcome statement includes the individuals, groups, social institutions, etc., that are most immediately and directly affected by the outcome, whether or not the effect was intended. In the example above, the affected entity is a group of individual vocational students who take courses in consumer education. Sometimes an outcome statement may be interpreted as also having an indirect recipient of the outcome's effect insofar as the outcome will have spillover effects. For example, it could be suggested that the student's family is also affected by the training he/she receives in consumer education. But in terms of using the statement in this thesaurus, it must at least include reference to some directly affected entity.

An outcome statement must specify the treatments which is believed to lead to or cause the outcome. In this thesaurus, outcomes are dealt with as results of a distinctive educational

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"outcomes can be categorized in a number of ways," the reader should interpret this to refer to hypothesized outcomes or outcomes that have been posited as being actual occurrences. Also, for a discussion of the inherently hypothetical nature of all our scientific knowledge, see Karl R. Popper, The Logic of Scientific Discovery, rev. ed. (London: Hutchinson and Co., 1968), Chapter 30.

treatment, i.e., vocational education. Often an outcome statement will also indicate the "agent," which is defined as that aspect of vocational education through which the treatment is applied. In the example above, the agent identified in the statement is a "vocational program." The agent could be a group of vocational educators, an occupational service area, a specific level of vocational education, or some other aspect of the overall vocational education process. The specification of the treatment and the agent addresses the question of "how" the outcome comes about.

Sometimes an outcome statement will indicate a time perspective that should be used in studying a particular outcome. In other words, the statement may suggest that the occurrence of the outcome is short-term and immediate or is long-lasting and is manifested only after some lengthy time interval. The "where" of an outcome statement would include information such as rural or urban programs, inner-city or suburban programs, perhaps different regional programs, etc. In providing the "why" behind an outcome, an outcome statement will sometimes provide the rationale or theoretical basis for expecting the outcome to occur.

The above should demonstrate that outcome statements begin to provide the information needed in order to inquire empirically whether or not the hypothesized outcome occurs, who or what it affects, and so on.

## C. Testable Outcome Hypotheses

As an outcome statement becomes increasingly specific in its description, it usually increasingly takes on the form of a "testable" hypothesis. "Testable" in this sense means that there are some ways of specifying under what conditions we expect the hypothesized outcome to occur. Following Carl Hempel, a philosopher of science, we can say that a testable hypothesis is a statement that can be put into the following explicitly conditional form: If conditions of kind C are realized, then an outcome of kind O will occur.[4] Moreover, the statement is such that we can

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[4]For a discussion of testability and other methodological issues, see Carl Hempel, Aspects of Scientific Explanation (New York: The Free Press, 1965).

empirically check to see if 0 occurs when conditions of kind C do in fact hold. Although we have rewritten the outcome statements that are presented as outcome questions in this thesaurus as clearly and as specifically as possible, we are aware of the fact that many of them are "outcome hypotheses" but are not necessarily "testable hypotheses." Nevertheless, outcome statements of this latter kind were included as outcome hypotheses or questions because the consistent emphasis they have been given by vocational educators, educational evaluators, and researchers suggests that they are important enough to retain as potential subjects of more thorough study.

There are at least two basic reasons for the lack of a large number of clearly articulated and testable hypotheses about vocational education outcomes. First, the empirical investigations of vocational education outcomes that have been hitherto conducted have been relatively narrow and limited in scope given the widely diverse range of claims that have been made about vocational education outcomes. This is to say only a few vocational education outcomes (usually perceived as goals or intended outcomes) have been empirically studied. Such investigations usually fall into the group of "follow-up studies" of vocational students. Even where this empirical work has been conducted, problems of operationalizing, measuring, and testing vocational outcome hypotheses remain. For example: How does one check the validity of a finding that large numbers of employed vocational students have or have not entered training-related occupations? How should "training-relatedness" be defined? How can we define "vocational education" in such a way that we feel confident that we are testing hypotheses about a distinctive educational treatment? These and other issues have continued to plague investigators of vocational education. Thus, the range of hypotheses formulated for testing has been rather narrow and even where the empirical testing of such hypotheses has been performed, it is sometimes not clear how to interpret the results.[5]

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[5]For further discussion of these and similar issues, see Kathleen Bolland, Vocational Education Outcomes: An Evaluative Bibliography of Empirical Studies (Columbus: National Center for Research in Vocational Education, The Ohio State University, 1979).

Another major factor in explaining the problem of compiling a comprehensive list of testable vocational outcome hypotheses has been the lack of attention paid to providing reasons and arguments supporting claims made about vocational outcomes. The ability to test a hypothesis, i.e., to operationalize and measure concepts in a significant way, is closely interrelated with the explanatory context from which that hypothesis is derived. Hence, the claim that "participation in vocational programs causes students to become more alienated from themselves and society" is not very clear until we know what it means to say someone is aliented. Perhaps we all share some kind of intuitive hunch about what we are saying in calling a human being alienated. However, we cannot test vague "hunches" any more than we can test vague statements.

Insofar as the meaning and use of a concept differs between theories (or explanations), the indicators used to measure them will differ too. Since many (certainly not all) of the outcomes attributed to vocational education by both its critics and its advocates are pronouncements rather than explanatory conclusions, the outcome hypotheses will reflect this lack of context and remain difficult to test. However, the fact that many of these "pronouncements" are repeatedly asserted suggests that they tap real concerns and should be noted for future study and development.

The point of this discussion is to indicate some of the problems involved in attempting to render a comprehensive list of outcome statements into testable hypotheses. As noted above, one might think of the claims about outcomes collected in this theasurus as hypotheses but not necessarily testable hypotheses. To emphasize that the outcome statements that were developed for this thesaurus are not confirmed hypotheses[6] or even in many cases, testable hypotheses, we have rewritten them as outcome questions in the thesaurus. Hence, instead of listing outcome statements like the following: "Participation in vocational programs at the high school level results in shorter job-search time for vocational students than that needed by comparable general/academic

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[6]By "confirmation" is meant obtaining expected test results over numerous testings. Some of the outcome statements included in the thesaurus have been confirmed for a particular testing but none have been confirmed over numerous cases so that we may have a high degree of confidence in their validity.

students," we have reformulated the statement into a question--"Does participation in vocational programs at the high school level result in shorter job-search time for vocational students than that needed by comparable general/academic students?"

D. Origins and Formulation of Outcome Questions

The outcome questions compiled in this thesaurus were obtained from a variety of sources. Some were obtained during informal conversations with individuals such as vocational educators, vocational administrators, city school superintendents, labor union representatives, business and industry representatives, researchers in vocational education evaluation, and so on. However, most of the outcome questions were developed after exploring a number of written sources. The latter extend in range and scope from educational journal articles to newsletters published by vocational youth organizations.

Citations are not provided for each specific outcome question. There are several reasons for this. First, none of the outcome questions contained in this thesaurus are direct quotations. In many cases, the outcome question was arrived at by making explicit what some source merely implied or suggested while discussing various aspects of vocational processes. As has been indicated, in a greater number of cases, outcome statements or hypotheses were found that were so vague and so general as to be almost meaningless except on an intuitive level. These were reformulated in order to render them as understandable to as wide a variety of audiences as possible. However, in reformulating these claims about outcomes, we often had to impose a more explicit interpretation on them and in doing so, may have changed the meaning and intent of the original source. Secondly, a great number of claims about vocational outcomes were repeatedly asserted or suggested by a number of different sources. Hence, it was not clear which one should be cited.

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[7]Another reason that the project staff felt that reformulating the outcome statements into questions was needed was to ensure that no one would misinterpret these statements, thinking mistakenly they might be claims officially propounded by the National Center.

Perhaps the most significant consideration affecting the decision to not cite sources for the outcome questions is the broader context within which this thesaurus may be used. Earlier, we suggested a number of different purposes that a thesaurus of vocational outcome questions can serve. However, all the functions potentially served by the thesaurus rest on the general assumption that each outcome statement (or question) can be treated as an hypothetical claim about purposes an individual may refer to this thesaurus, its general usefulness derives from the fact that it is a compilation of hypothesized relations between vocational programs and educational outcomes which effect individuals, groups, or societal entities.

When dealing with hypotheses (whether in a scientific context or a policy making context) a distinction is sometimes made between the "logic of discovery" and the "logic of justification" (Popper, 1968). The logic of discovery applies to the processes by which hypotheses are initially formulated and in this sense, discovered. There are no formal canons or rules of logic that cover exhaustively the procedures of discovering hypotheses.[8] In contradistinction to the logic of discovery is the logic of justification. Both in scientific practice and in everyday discourse, we can identify a number of formal procedures which can be used to gain acceptance that a conclusion (including that an hypothesis has been confirmed) has in fact been justified or at least reasonably supported. In this context then, we repeat for emphasis, this thesaurus is not a categorized list of confirmed or supported hypotheses about vocational education outcomes. Rather, it is intended to expand awareness of the questions and unconfirmed hypotheses that can guide scientific research, the evaluation of vocational programs, and aid the decisions that policy makers must confront while forming and implementing vocational education policy. Since the literature on vocational education and our discussions with informed individuals has served to stimulate our development of outcome statements and questions rather than to provide authoritative sources, we do not think it

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[8]Popper and other philosophers of science do suggest that an hypothesis whose discovery was guided by working out of a particular theory is generally more acceptable than one that seemingly derives from no particular substantive context.

necessary or appropriate to single out particular authors or individuals for citation as "discoverers of outcome hypotheses."[9]

One publication that merits special comment bears the title "Questions in Vocational Education."[10] Organized around a "systems-oriented conceptual framework," the report identifies six components associated with vocational education; "(1) the context in which vocational education occurs, (2) the inputs into vocational education, (3) the process by which vocational education staff and facilities are structured and organized into programs to provide services, (4) the product or output of vocational education programs, (5) the impact or result of vocational education, and (6) the interrelation between context, input, process, product and

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[9]Some examples of possible sources for outcome questions or hypotheses include the following: Edwin L. Herr, ed. Vocational Guidance and Human Development (Boston: Houghton Mifflin Co., 1974); James E. Wall, ed. Vocational Education for Special Groups: The Sixth Yearbook of the American Vocational Association (Washington, D.C.: The American Vocational Association, 1976); Robert P. Quinn and Martha S. Baldi de Mandilovitch, Education and Job Satisfaction: A Questionable Payoff (Washington, D.C.: U.S. Department of Health, Education, and Welfare, The National Institute of Education, March 1977); Grant Venn, "Criteria Against Which Vocational Education Should be Held Accountable," in Interpreting Outcome Measures in Vocational Education: A Final Report, Floyd L. McKinney, Kenney E. Gray, and Marie Abram (Columbus: The Center for Research in Vocational Education, The Ohio State University, 1979); James S. Coleman, Equality of Educational Opportunity, Reconsidered (Baltimore: Johns Hopkins University, 1967); Robert L. Darcy, Vocational Education Outcomes: Perspective for Evaluation (Columbus: National Center for Research in Vocational Education, The Ohio State University, 1979); and Leonard A. Lecht, Evaluating Vocational Education--Policies and Plans for the 1970's (New York: Praeger Publishers, 1974).

[10]Donald W. Drewes and others, Questions in Vocational Education: What Everyone Wants to Know and Is Not Afraid to Ask, Career and Vocational Education Professional Development, Report No. 18 (Raleigh: Center for Occupational Education, North Carolina State University, 1975).

impact." Questions concerning vocational outcomes fall into the "product" and "impact" categories of this framework. The thesaurus, on the other hand, is wholly concerned with presenting questions about vocational outcomes. Some of the questions may have indirect or suggestive implications for studying processes or inputs into vocational education. But the thesaurus is limited to presenting a comprehensive list of questions about vocational education outcomes.

There is a second significant difference between the OVE report and the thesaurus. The questions formulated in the report are oriented to obtaining descriptive information, for example, "What is the total number of program completers by type of school?" By contrast, the outcome questions in this thesaurus are oriented toward obtaining causal knowledge about vocational outcomes. That is to say, that most of the outcome questions in this manuscript seek to ask whether vocational education as a distinctive educational treatment can be causally linked to particular effects. An example of a causally oriented question is "Are vocational programs more successful in reducing the student dropout rate than general/academic programs?"

## E. The Classification of Outcome Questions

There have been various attempts made to develop a classification framework for organizing and categorizing questions and/or statements about general educational outcomes and vocational outcomes.[11] However, most of these attempts have dealt with anticipated outcomes, desired outcomes, or outcome goals and objectives. As was emphasized above, there is a need for researchers and policy makers to learn more about the whole range of vocational education outcomes. This includes studying both intended and unintended, desirable and non-desirable, long term and short term, economic and non-economic outcomes.

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[11] See, for example, Richard L. Derr. A Taxonomy of Social Purposes of Public Schools. (New York: David McKay Co., Inc., 1973). Also, see Morris Coburn, Claude Salem, and Selma Mushkin, Indicators of Educational Outcome, Fall 1972, National Center for Education Statistics (Washington, D.C.: U. S. Government Printing Office, 1973); and David R. Krathwohl, Benjamin S. Bloom, and Bertram B. Masia, Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook II: Affective Domain (New York: David McKay, 1964).

Although we have used a classification system to organize the outcome questions in the thesaurus, its development was guided more by pragmatic considerations than by substantive or theoretical criteria. Before proceeding to a description of this framework, it is appropriate to consider the rationale and implications of any classification system. The importance of such a system derives from the role that it serves in contributing to the efforts of vocational education researchers, administrators, and policy-makers. Following are a few of the useful functions a classification framework could perform.

1. A classification schedule would emphasize to other researchers or interested parties that there is a range of diverse outcomes that need attention in important areas of concern to the vocational education community.

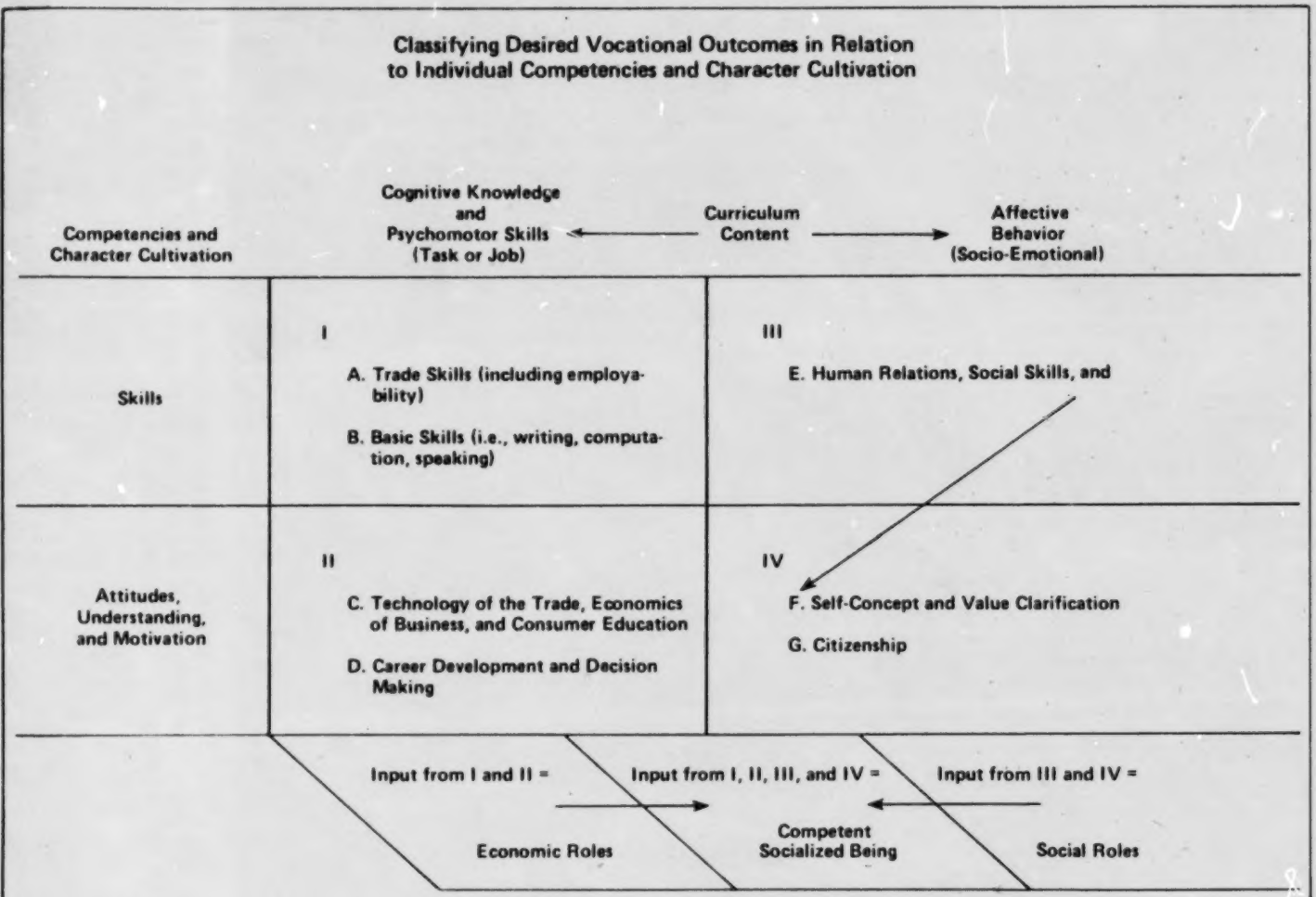
2. The development of a framework upon which the classification of outcome statements is based could serve as a theoretical (or explanatory) basis for identifying and specifying those factors that may be causally important in producing specific vocational education outcomes.

3. A classification scheme would provide the basis for cumulating and organizing the results of evaluative studies and for identifying directions for further efforts.

4. A classification scheme would allow the researcher to more easily (and perhaps more sensitively) compare and contrast outcome statements within and across categories.

As the list above shows, efforts to develop an adequate classification scheme should be intensified. However, despite the potential benefits, there are obstacles to developing an appropriate classification framework.

The imposition of a classification scheme or conceptual framework upon a set of outcome statements could imply a particular perspective or interpretation for each of the statements. Hence, looking at the classification scheme used by Bregman and Frey (see Figure 1) one finds that vocational outcomes are interpreted as being in a major way a result of curriculum content. Also, it can be noted that the range of outcomes that can usefully be categorized in this classification are those that deal with individual-level skills, competencies, and so on. In other words, there is no room for categorizing outcomes that are thought to affect institutions


Classifying Desired Vocational Outcomes in Relation to Individual Competencies and Character Cultivation
Competencies and Character Cultivation
Cognitive Knowledge and Psychomotor Skills (Task or Job)
Curriculum Content
Affective Behavior (Socio-Emotional)
Skills
I
A. Trade Skills (including employability)
B. Basic Skills (i.e., writing, computation, speaking)
III
E. Human Relations, Social Skills, and
Attitudes, Understanding, and Motivation
II
C. Technology of the Trade, Economics of Business, and Consumer Education
D. Career Development and Decision Making
IV
F. Self-Concept and Value Clarification
G. Citizenship
Input from I and II =
Economic Roles
Input from I, II, III, and IV =
Competent Socialized Being
Input from III and IV =
Social Roles

From Ralph Bregman and Verna Frey, "Vocational Education: An Alternative Rehabilitation Mode for Correctional Institutions" in *Vocational Education for Special Groups: Sixth Yearbook of the American Vocational Association,* James E. Wall, ed. (Washington, D.C.: The American Vocational Association, 1976, p. 170).

**Figure 1**

or functional characteristics of the society at large. Hence, the classification framework suggested in Figure 1, has an individualistic focus and curriculum bias, and outcomes or outcome statements are likely to be interpreted on that basis.

The way in which we "slice up the world" in a classification scheme has other important implications. In effect, it demarcates or delimits those aspects of the subject matter that are somehow judged to be "important" or "appropriate." To refer again to an example, the "matrix of expected outcomes" suggested by Jerome Moss, Jr., is multi-dimensional (see Figure 2). The matrix demarcates the relevant targets (or affected entities) to be considered, i.e., it demarcates who or what needs to be taken into consideration in studying vocational outcomes. In this case, Moss suggests that we utilize two categories--"Students" and "Other." Moss explained the distinction and categories by stating that:

> "A second axis, for target, distinguishes between expected student (and former student) outcomes, and indirect, secondary, or feedback outcomes anticipated in other people, agencies, or institutions."[12]

Note that in establishing these conceptual categories that way he has, Moss has developed a classification that implies that outcomes directly affecting students are of considerable importance but not those directly affecting persons, institutions, etc., that fall into the category of "Other." Indeed, outcomes that may be conceptualized as directly affecting non-students, institutions, etc., are excluded from this classification framework. Moreover, the fact that so many potential targets are lumped together in the category "Other" while "Students" are clearly distinguished demonstrates the priority that the classification tends to give to outcomes affecting students.

Along a second axis, Moss uses three categories to distinguish possible outcome types--"Educational", "Psychosocial," and "Economic." Insofar as he has included these particular categories while excluding others (e.g., Political), he has built into his matrix distinctions that demarcate the types of outcomes that are relevant and appropriate for study.

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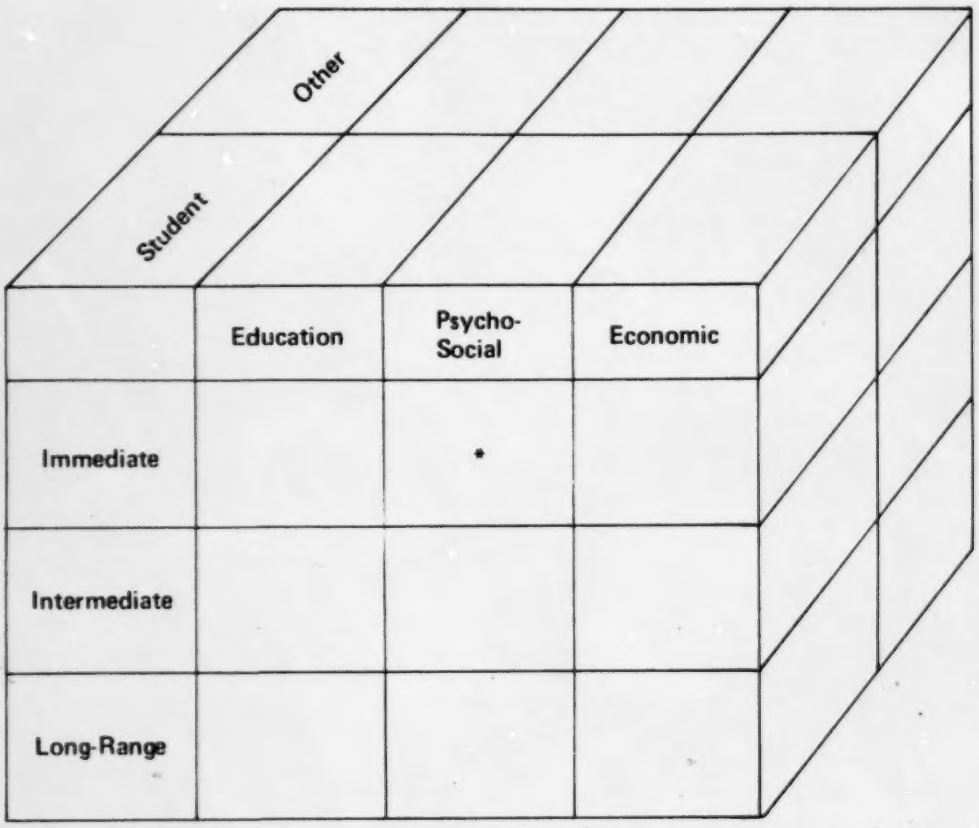
[12]Jerome Moss, Jr., The Evaluation of Occupational Education Programs, Technical Report (Minneapolis: Research Coordinating Unit in Occupational Education, University of Minnesota, September, 1968), p. 10.

Matrix of Expected Outcomes




* Both Qualitative and Quantitative Outcomes are Entered in Each Cell.

From Jerome Moss, Jr., *The Evaluation of Occupational Education Programs, Technical Report* (Minneapolis: Research Coordination Unit in Occupational Education, University of Minnesota, September 1968), p. 9.

**Figure 2**

In attempting to understand the implications of saying that one outcome has "relevance" or "importance" while another may not, one almost inevitably begins to equate these terms with desirability. Indeed, Moss had quite explicitly developed his matrix on the basis of desirable and hence, relevant categories. Likewise, in reviewing the classification scheme in Figure 1, we see that the hypothesized relations between curriculum content and types of outcomes result in a "Competent Socialized Being." It is clear that Bregman and Frey are making conceptual distinctions in terms of what will contribute to the development of their idea of what constitutes a competent, socialized individual.

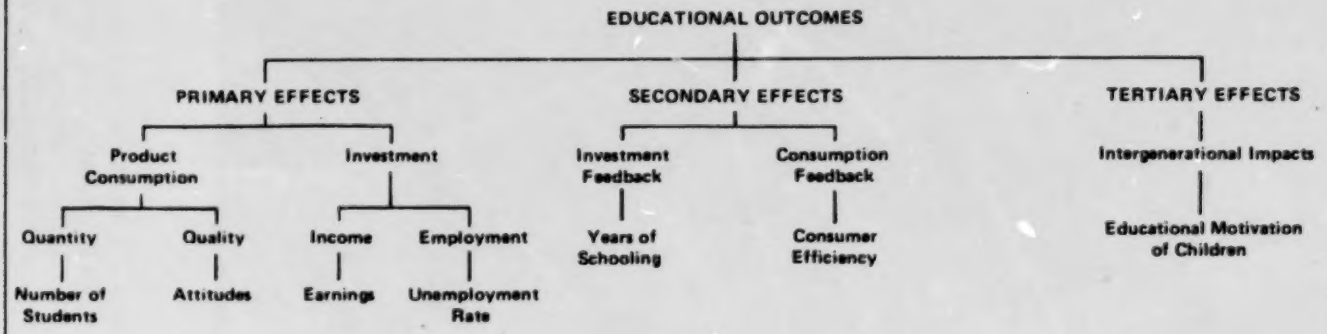
Indeed, most of the classification frameworks developed for dealing with outcomes have been developed with the explicit purpose of dealing with desired and/or expected outcomes. It has been suggested throughout this discussion that decisions concerning which outcomes are relevant for consideration as goals and as evaluation criteria will be improved if an expanded awareness of the range and diversity of outcomes is developed. This suggests that a classification framework is needed that is capable of conceptually organizing all kinds of outcomes and not just those that are deemed as desirable and/or expected. Figure 3 is one of the few examples we found that can do this. To be sure, such a framework would be establishing distinctions of relevance. However, the force of "relevance" here becomes that of concern because it makes a difference in some way to human beings. Whether the difference an outcome makes is judged desirable or undesirable will depend on the particular use to which the framework is put. In any case, relevance in this sense cannot simply be equated with goals, or the "good," or the "desirable."

Because of the problems and the seriousness of the implications, we have chosen to organize the thesaurus around a classification system which has been developed with the pragmatic consideration in mind of how to provide users with convenient access to outcome questions of interest. Hence, the next section will explain how the thesaurus has been organized and how it might be used.

## F. Use of the Thesaurus

With a compendium of over two hundred outcome questions, it was felt that the reader could easily be overwhelmed in attempting to read through the list. Hence, a method of breaking down the questions into manageable subsets seemed

**Classification of Educational Outcomes in a Sequence of Time Phases**




From Morris Cobern, Claude Salem, and Selma Mushkin, *Indicators of Educators of Educational Outcome, Fall 1972,* National Center for Education Statistics (Washington, D.C.: U.S. Government Printing Office, 1973, p. 7)

**Figure 3**

desirable. The classification system chosen to enable us to do this is by no means a reflection of the project's conceptual or theoretical assumptions although, as discussed above, it is not free of suggesting ways in which outcomes might be studied. However, emphasis should be placed on the fact that it was chosen more for its practical utility than for any research-directing implications it might have. With that caveat in mind, an outline of the classification is provided below.

A. Outcome Questions Having the Individual as Affected Entity
   (1) Secondary School Level
      (a) Related Directly to Economic or Occupational Roles
      (b) Related Predominantly to Non-economic Roles
   (2) Postsecondary School Level[13]
      (a) Related Directly to Economic or Occupational Roles
   (3) Not Differentiated by School Level
      (a) Related Directly to Economic or Occupational Roles
      (b) Related Predominantly to Non-economic Roles

B. Outcome Questions Having Social Entities or Society-in-General as Affected Entities.[14]
   (1) Related Directly to Economic Sphere
   (2) Related Predominantly to Non-economic Sphere

C. Outcome Questions Having Special Needs Subpopulations (or Members Thereof) as Affected Entities
   (1) Related Directly to Economic or Occupational Roles
   (2) Related Predominantly to Non-economic Roles

This system differentiates outcome questions in basically three ways. First, it distinguishes the outcome questions with respect to the affected entity of the outcome, i.e., the individuals, groups, institutions, or social entities that

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[13] A category for outcome questions related predominantly to non-economic roles should logically follow A.2.a. It has been omitted because we have no entries for it in our sample of outcome questions. The same holds true for the omission in this framework of categories for adult vocational programs or programs for out-of-school youths.

[14] Differentiation by school levels should be included as categories but have been omitted due to lack of entries in our sample. This is also true of both major categories containing questions that have special needs groups as the affected entities.

are most directly affected by the outcome in question. Following are the distinctions made with respect to the affected object. First, there are those outcome questions having the individual as the affected entity. These questions might refer to former or present students, parents, employers, etc. The point, however, is that the locus of effect of the outcome is the individual. Secondly, there are outcome questions having social entities or society-in-general as the affected entity. Instances of this are when institutions, local communities, or organized groups are being posited as the locus of the outcome's effects. Finally, there are outcome questions having particular relevance for special needs subpopulations as including the following groups: blacks, the disadvantaged, ethnic and/or linguistic minorities, out-of-school youths, women, native Americans, older workers, ex-offenders, migrants, and the mentally or emotionally or physically handicapped. It should be noted that the outcome questions having the individual as the affected entity are not mutually exclusive from those having members of special needs groups as the affected entity. We have distinguished between the two on the practical basis that many researchers and policy makers are interested in outcomes affecting individuals as members of special needs subpopulations and not as members of the general public.

A second method of differentiating outcome questions is based on differences in school level, i.e., secondary and postsecondary. It has been suggested that differences in school level may be associated with differences in the nature and frequency of occurrence of vocational outcomes. This may or may not be the case. However, we distinguished questions by school level because for various purposes, individuals may desire or need to inquire into vocational programs at different school levels. Thus, where one person might be solely interested in evaluating outcomes at the secondary school level, another might be focusing on adult vocational programs.

The third distinction utilized in the classification system is perhaps the most likely to cause disagreement or unease among readers. This is the distinction between those outcome questions which we have labeled as economically or occupationally related and those labeled noneconomically related. Although it is always difficult to separate the "economic" from the "social," "political," and even "psychological" aspects of human life, we have tried to resolve this problem by applying the distinction in a fairly narrow manner. "Economic or occupational-related roles or spheres" should be interpreted in the thesaurus to apply to those outcome questions which are explicitly related to employability, employment, wage rates, economic resource levels, and so on. However, an outcome that on the face of it seems to be obviously economic in nature, e.g., employment/unemployment rates for

vocational graduates, may have serious social and political implications as well. Hence, the reader is forewarned against assuming that the way in which we have distinguished between economic and non-economic outcome questions is meant to be in any way definitive. Again, this distinction was used mainly because it seemed to provide the practical advantage of categorizing the outcome questions in an accessible manner for readers.

Having differentiated the outcome questions on the basis of affected entity, school level, and whether the outcome is economic or non-economic in nature, the resulting organization of the outcome questions is made more manageable.

Moreover, for those persons interested in a particular topic, we have provided an index of specific topics which follows the compendium of outcome questions. Although the list of topics and sub-headings is not exhaustive, we have tried to include those that are relevant to the concerns and interests of individuals involved in the area of vocational education.

The outcome questions in the compendium have been numbered for identification sequentially, beginning with #1 and extending to #252. Although it is hoped that most of the major topics relevant to vocational education are included in the index, it is not exhaustive with regard to the possible topics that could have been included. Lastly, topics have been cross-referenced where it seemed advisable and/or appropriate. The major topic headings are arranged in alphabetical order, followed by the identification numbers preceding each outcome question in the compendium. For example, if the earnings of vocational students is the topic of interest, a reader would find "earnings" entered in the index in the following way:

Earnings, of vocational students, 44, 45, 94, 95, 96, 97 . . . .

The reader can then refer to the outcome questions having the identification numbers listed after the topic. We have not exhaustively listed every outcome question potentially related to a specific topic. In obvious cases this has been represented by a series of periods following the last identification number listed. For example, given the large number of questions dealing with general academic programs, "general academic programs has been entered as below:

General academic programs, 3, 5, 6, 7, 11, 17 . . . .

More specific instructions are provided with the index.

## II. COMPENDIUM OF VOCATIONAL EDUCATION OUTCOME QUESTIONS

### A. OUTCOME QUESTIONS HAVING THE INDIVIDUAL AS THE AFFECTED ENTITY;

#### (1) SECONDARY SCHOOL LEVEL;

##### (a) DIRECTLY RELATED TO ECONOMIC OR OCCUPATIONAL ROLE

1. Outcome Question: Does participation in vocational programs at the high school level result in a satisfactory number of the graduates obtaining their first full-time employment in training-related fields?

2. Outcome Question: Does participation in vocational programs at the high school level instill the belief in students whose first job is training-related that they have been well prepared for their jobs?

3. Outcome Question: Are the returns from individual investments in vocational education higher than returns made by individuals in general/academic programs below the baccalaureate level?[15]

4. Outcome Question: Does participation in Distributive or Trade and Industry programs at the high school level result in more students having jobs lined up for starting work immediately after program completion than do comparable students in other vocational programs?[16]

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[15]When a contrast group is referred to in an outcome question like the above, it is assumed that the comparison is being made for groups whose members are matched in sex, age, mental ability, and socioeconomic background.

[16]In a number of the outcome questions, the reasoning behind citing a specific vocational program (or a specific time period as in question #8) will not be obvious. Nevertheless, we have retained these formulations of the questions as a way of suggesting that new outcomes might be identified by thinking in terms of the outcomes that are possibly associated with different programs. Moreover, the different time perspectives we associate with hypothesized outcomes may possibly generate new ideas and outcomes. (Refer to discussion in Introduction.)

5. Outcome Question: Does graduation from vocational programs at the high school level result in lower rates of unemployment for these students than for general/academic high school graduates?

6. Outcome Question: Do graduates of vocational programs encounter fewer periods of unemployment than graduates of general/academic high school programs?

7. Outcome Question: Does graduation from a vocational program at the high school level result in briefer periods of unemployment than graduation from general/academic programs?

8. Outcome Question: Does participation in Health programs at the high school and community college level result in program completers spending more time than completers of other programs at comparable school levels in full-time, permanent employment during the first three years after program completion?

9. Outcome Question: Do graduates of Technical or Trade and Industry programs at the high school level express greater dissatisfaction with their first full-time job than graduates of other vocational programs at the same level?

10. Outcome Question: Do graduates of Agricultural programs at the high school level obtain jobs with lower socioeconomic status than graduates of all other vocational program areas at all other school levels?

11. Outcome Question: Does participation in secondary vocational programs result in more women obtaining supervisory positions than comparable women who graduate from general/academic programs?

A. OUTCOME QUESTIONS HAVING THE INDIVIDUAL AS THE AFFECTED ENTITY;

(1) SECONDARY SCHOOL LEVEL;

(b) RELATED PREDOMINANTLY TO NON-ECONOMIC ROLES

12. Outcome Question: Does participation in vocational programs and affiliated youth organizations result in students having experiences that enhance their

ability to respond appropriately to a variety of social situations?[17]

13. Outcome Question: Does participation in youth organizations develop in students leadership capabilities in planning and implementing small-group activities?

14. Outcome Question: Does participation in vocational programs and affiliated youth organizations develop in students the capacity to be self-directed and responsible in pursuing both occupational and non-occupational goals?

15. Outcome Question: Does participation in vocational organizations develop in students a personal interest in affairs extending beyond the confines of the local community?

16. Outcome Question: Does participation in vocational programs and affiliated youth organizations develop in youths a sense of responsibility for the welfare of others?

17. Outcome Question: Does participation in vocational programs and affiliated youth organizations motivate and prepare students to enter into voluntary, social service activities more so than does participation in general/academic programs by comparable students?

18. Outcome Question: By providing some sort of financial income, do cooperative vocational programs develop the students' independence and ability to assume responsibility outside the parental environment?

19. Outcome Question: Does participation in vocational education and affiliated youth organizations develop in students the personal qualities needed for successful work entry and the assumption of responsibility as citizens and family members?

20. Outcome Question: Does participation in activities by vocational programs and affiliated youth organizations enable young persons to establish an appropriate balance between work and leisure and to select leisure activities appropriate to their life styles?

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[17]When an outcome question does not explicitly refer to the secondary school level but does refer to "youths" or "youth organizations" affiliated with vocational programs, we have categorized it under secondary school level.

21. Outcome Question: Does participation in vocational programs make the emotional and psychological transition from adolescence to adulthood easier for the student than participation in general/academic programs?

22. Outcome Question: Have residential vocational schools provided youths with new opportunities by removing many of them from the care of unfit, uninterested parents and from overcrowded, impoverished neighborhoods where the temptation of delinquency and crime is strong?

23. Outcome Question: Are vocational programs at the high school level more successful in reducing the student dropout rate to a lower level than that found in general/academic high schools without vocational programs?

24. Outcome Question: Are students who participate in vocational programs at the high school and postsecondary level more persistent in their desire to complete their programs of study than are those enrolled in general/academic programs?[18]

25. Outcome Question: Does participation in vocational programs at the high school level create a desire in students for postsecondary schooling, especially in a field of study parallel to their high school programs?

26. Outcome Question: Do students of vocational programs at the secondary level evaluate their overall high school experience more positively than do comparable general/academic students?

27. Outcome Question: Does graduation from a vocational program at the high school level cause students to be rejected for entry into many two-year, postsecondary institutions on the basis of unacceptable credits?

28. Outcome Question: Does graduation from a vocational program at the high school level result in students having insufficient or non-acceptable credits for admission to a four-year academic/general college?

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[18] Outcome questions that pertain to both the secondary and postsecondary school levels have been categorized under secondary school level and are not listed again.

29. Outcome Question: Does participation in vocational programs at the high school level motivate graduates to enroll in postsecondary programs (e.g., colleges, universities, community colleges, vocational-technical schools, etc.)?

30. Outcome Question: Does graduation from vocational high schools enable students to be admitted to many community colleges without taking "challenge exams"?

31. Outcome Question: Does the training in high school vocational programs effectively prepare students for entry into baccalaureate degree programs in universities and colleges?

32. Outcome Question: Does the existence of vocational programs result in more students obtaining high school and community college degrees than would occur if their only curricular option were to study strictly academic subjects?

33. Outcome Question: Does participation in secondary vocational programs increase students' capabilities of using skills of inquiry, i.e., greater ease and precision in the use of an appropriate systematic approach for seeking information related to a subject?

34. Outcome Question: Does participation in high school vocational programs result in students making lower scores on verbal and achievement tests than comparable high school students in general/academic programs?

35. Outcome Question: By participating in secondary vocational programs do students learn to send and receive information in a variety of modes (e.g., written, graphic, oral, etc.) and for a variety of purposes (e.g., to inform, to persuade, to analyze, etc.)?

A. OUTCOME QUESTIONS HAVING THE INDIVIDUAL AS THE AFFECTED ENTITY;

(2) POSTSECONDARY SCHOOL LEVEL;

(a) RELATED DIRECTLY TO ECONOMIC OR OCCUPATIONAL ROLES

36. Outcome Question: Do students participating in vocational programs at the community college level rate the quality of their vocational instruction higher than the instruction in the academic subjects which are a part of their curriculum?

37. Outcome Question: Do graduates of vocational programs at the postsecondary, non-college level rate their instruction higher in quality than graduates of high school vocational programs?

38. Outcome Question: Do students, in their first training-related jobs after completing postsecondary, non-college vocational programs consider themselves well prepared for their first job?

39. Outcome Question: Does participation in vocational programs at the postsecondary level lead students to believe they would not have gotten their first full-time employment without the postsecondary training?

40. Outcome Question: Do students, after completing a post-secondary vocational program, spend more of the subsequent three years in full-time employment than those who complete high school vocational programs?

41. Outcome Question: Does graduation from vocational programs at the postsecondary, non-college level result in lower rates of employment for graduates for the first three years after graduation than those for graduates of programs at other levels?

42. Outcome Question: Does participation in Agricultural, Technical, or Health programs at the community college and postsecondary, non-college levels contribute to the student's ability to retain a job received prior to graduation?

43. Outcome Question: Does participation in vocational programs at the postsecondary, non-college level result in a decline in the proportion of graduates holding training-related jobs three years after graduation?

44. Outcome Question: Does graduation from a vocational program at the postsecondary level ensure that graduates will receive higher hourly wage rates on their first job than those received by high school vocational graduates?

45. Outcome Question: Does graduation from a vocational program at the community college level lead to better increases in hourly wage rates for graduates in the first three years after graduation than for graduates of postsecondary, non-vocational programs?

46. Outcome Question: Does graduation from vocational programs at the postsecondary, non-college level generally provide graduates with advantages (e.g., higher paying jobs, more prestigious jobs, etc.) over students graduating from high school vocational programs?

47. Outcome Question: Do graduates of vocational programs at the community college level obtain better jobs with higher socioeconomic status within three years of graduation than those obtained by graduates of postsecondary, non-college programs and by high school graduates?

48. Outcome Question: Does graduation from Agricultural programs at the postsecondary, non-college level lead to jobs with higher socioeconomic status than jobs obtained by Agricultural program graduates at the high school and community college levels?

49. Outcome Question: In general, does participation in vocational programs at the community college level contribute to greater job satisfaction among employed graduates than that found among graduates of postsecondary, non-college and high school programs?

50. Outcome Question: Does participation in vocational programs at the community college level contribute to greater job dissatisfaction among male graduates than among female graduates at the same level?

51. Outcome Question: Does participation in male-dominated vocational programs (e.g., Trade and Industry, Distributive, or Technical) at the community college level contribute to greater job dissatisfaction among female graduates than that found among male graduates of the same program?

52. Outcome Question: Does participation in Distributive programs at the postsecondary, non-college level contribute to greater job dissatisfaction among employed graduates than that found among employed graduates of other vocational programs at the same level?

A. OUTCOME QUESTIONS HAVING THE INDIVIDUAL AS THE AFFECTED ENTITY;

(3) NOT DIFFERENTIATED BY SCHOOL LEVEL;

(a) RELATED DIRECTLY TO ECONOMIC OR OCCUPATIONAL ROLES

53. Outcome Question: Does participation in vocational programs produce students who are certifiable as occupationally proficient and ready for entry-level employment upon program completion?

54. Outcome Question: Does participation in vocational programs result in students who are "late program leavers" but not program completers receiving marketable skills which enhance their employability?

55. Outcome Question: Does participation in vocational programs result in students acquiring psychomotor skills, e.g., hammering, typing, and plowing, which are necessary for many forms of occupational competence?

56. Outcome Question: Does participation in vocational programs enable students to learn employment skills and basic work disciplines in a more effective manner than persons who learn such skills from on-the-job training in industry?

57. Outcome Question: Of all vocational program graduates, do those trained in Health programs receive the highest proportion of training-related jobs as first employment?

58. Outcome Question: Does participation in Agriculture programs as compared to other vocational programs result in the smallest proportion obtaining their first full-time employment in training-related fields?

59. Outcome Question: Are students trained in vocational programs better able to apply the diverse occupational skills learned in school than graduates of general/academic schools?

60. Outcome Question: As a result of participation in vocational programs, do students acquire safe working habits and techniques, thereby reducing physical risks to their co-workers and themselves?

61. Outcome Question: Does participation in vocational programs produce students with a substantial and stable set of behaviors which underly all the professional, skilled, and technical occupations?

62. Outcome Question: Does participation in vocational education provide students with the skills, understandings, and appreciations needed to upgrade or update their occupational competence?

63. Outcome Question: Does participation in vocational programs produce students with transferable skills, thereby increasing their chances of successful employment even in fields outside those in which training was received?[19]

64. Outcome Question: Does participation in vocational programs produce students with skills so specific and specialized that their occupational options become narrowly restricted and inflexible?

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[19]This outcome question, like several others, has two facets: Do vocational students receive transferable skills from participating in vocational programs; and, if so, do these skills really increase their chances of successful employment in fields other than those in which they were trained? Readers are not being asked to assume a positive answer to the first question and then to focus on the second question. The entire question is hypothetical, requiring further attention. This is true for all compound, complex questions in the Thesaurus.

65. Outcome Question: Does participation in vocational programs produce students with general transferable skills, thus enabling them to adapt quickly and successfully to changing technological and skill requirements?

66. Outcome Question: Are many vocational programs tied so closely to local needs and opportunities that the student's future ability to become occupationally mobile is limited?

67. Outcome Question: Does participation in vocational programs produce students with training and skills that will enable them to become geographically mobile?

68. Outcome Question: Does an understanding of the aging process acquired through short Home Economics courses in gerontology prepare students for jobs which involve working with the elderly?

69. Outcome Question: Does participation in vocational programs discourage students from obtaining training in areas identified as declining occupations?

70. Outcome Question: Does participation in vocational programs develop in students a greater awareness of the occupational options available in the work world than the awareness held by comparable students of general/academic programs?

71. Outcome Question: Does participation in vocational programs enhance the students' understanding of their educational and career opportunities, thus enabling them to formulate more realistic goals for the future?

72. Outcome Question: Do vocational educators and counselors impose occupational decisions on youths before they have sufficient understanding and knowledge of occupational options on which to base their own decisions?

73. Outcome Question: Does participation in vocational programs make students aware of the training required for pursuing various occupations?

74. Outcome Question: Does participation in vocational programs enable students to make sound decisions about particular occupations based on their explorations of alternative occupations in school?

86. Outcome Question: Does participation in vocational programs enable students to acquire job-seeking skills such as how to write a resume and where to look for job opportunities?

87. Outcome Question: Does participation in vocational programs prepare students to learn from prospective employers whether a job is appropriate to their skills, job expectations and desires, and physical or economic needs?

88. Outcome Question: Does participation in a vocational program enable students to learn how to approach and interview prospective employers?

89. Outcome Question: Do students entering the work force directly after graduation from vocational programs (at all levels) face shorter periods of job-search time than comparable students completing general/ academic prgrams?

90. Outcome Question: Does participation in vocational programs motivate graduates to be more persistent in job-hunting after leaving school than general/ academic graduates?

91. Outcome Question: Does participation in vocational programs (at all levels) result in students being more satisfied with their jobs two years after graduation than comparable general/academic students holding similar jobs?

92. Outcome Question: Does participation in Health programs (at all levels) result in graduates better satisfied with their first full-time jobs than graduates of other vocational programs at all levels?

93. Outcome Question: Does participation in vocational programs result in employers rating vocational students as being more satisfactory as entry-level employees than comparable general/academic students?

94. Outcome Question: Does graduation from vocational programs (regardless of school level) result in higher hourly wage rates for graduates in the first three years after graduation than graduation from general/academic programs at comparable school levels?

75. Outcome Question: Does the organization of many vocational program curricula cause students to be tracked into specific occupations?

76. Outcome Question: Do the curricula of many vocational programs produce students trained in occupations with severely limited or diminishing job opportunities?

77. Outcome Question: Do students through their participation in vocational programs acquire skills that are (or soon will be) obsolete in terms of labor market demand?

78. Outcome Question: Do students, by participation in vocational programs, receive help from a structured, career guidance program?

79. Outcome Question: Are employers now imposing higher educational requirements for jobs because vocational programs continue to supply a pool of trained workers?

80. Outcome Question: Does participation in vocational programs create a greater awareness in students of the necessity of learning basic academic skills in becoming employable than the awareness developed in comparable general/academic students?

81. Outcome Question: Do vocational graduates usually resort to self job-placement because vocational placement offices are ineffective in finding jobs for students?

82. Outcome Question: Does participation in vocational programs enable students to operate successfully in the labor market?

83. Outcome Question: Do students through participation in vocational programs acquire employment survival skills which contribute to their success in retaining jobs?

84. Outcome Question: Do students through participation in cooperative vocational programs usually enter the labor market with good work records in hand?

85. Outcome Question: Does participation in vocational programs prepare students who are entering nontraditional roles with coping competencies as well as the necessary occupational skills?

95. Outcome Question: Does graduation from an Agricultural program result in a higher mean hourly wage rate for graduates on their first full-time job than graduation from other vocational programs?

96. Outcome Question: Does participation in vocational programs result in greater increases in hourly wage rates for those graduates working in training-related areas than those received by vocational graduates working in non-training related areas?

97. Outcome Question: Does participation in cooperative programs in vocational education enable students who are forced to work for economic reasons to earn while receiving vocational training?

98. Outcome Question: Does participation in vocational programs result in a decrease in earnings of vocational graduates in the ten years following graduation relative to the earnings of general/academic college graduates?

99. Outcome Question: Does graduation from a vocational program in an urban school result in higher wages and earnings on a student's first full-time job than those received by graduates of vocational programs located in rural schools?

100. Outcome Question: Does participation in and graduation from Office, Technical, or Distributive programs result in jobs with a higher socioeconomic status for graduates than the jobs obtained by graduates from other vocational programs?

101. Outcome Question: By participating in vocational programs, do program completers move to better paying and more prestigious jobs (with greater opportunities for advancement) than comparable general/academic program graduates?

102. Outcome Question: Do students, as a result of participation in vocational programs, become absorbed in program activities which keep them out of the labor force entirely or limit their labor force participation to part-time employment?

103. Outcome Question: Does participation in a vocational program at any school level result in longer tenure for graduates on their first full-time job than for general/academic graduates at comparable school levels?

104. Outcome Question: Do vocational programs perpetuate the tendency of vocational educators, administrators, and society at large to regard and treat vocational students as human resources whose economic value can be enhanced by selective educational investments?

105. Outcome Question: Does participation in vocational programs result in students coming to regard themselves as human resources whose economic value can be increased by selective educational investments?

106. Outcome Question: Does vocational education foster parent-student discussion of the student's future plans (e.g., college, postsecondary vocational training, etc.) because it involves parents in the development and implementation of career guidance programs?

107. Outcome Question: As a result of participating in vocational programs, do students develop a realistic understanding of what employers will ask them on the job?

108. Outcome Question: Does participation in vocational programs result in women acquiring the attitudinal preparation to obtain and succeed in supervisory positions in male-dominated occupations?

109. Outcome Question: Does participation in vocational programs inculcate in students a respect for authority which thereby improves their relations with supervisors on the job?

110. Outcome Question: By participating in vocational programs, do some students develop skills and knowledge needed for owning and operating small-scale businesses?

A. OUTCOME QUESTIONS HAVING THE INDIVIDUAL AS THE AFFECTED ENTITY;

(3) NOT DIFFERENTIATED BY SCHOOL LEVEL;

(b) RELATED PREDOMINANTLY TO NON-ECONOMIC ROLES

111. Outcome Question: Does participation in vocational programs develop in students a greater appreciation for learning in general than does participation in general/academic programs?

112. Outcome Question: Does participation in vocational programs provide students with individualized instruction which minimizes the learning problems created by differences in background and learning abilities?

113. Outcome Question: Does vocational education in general provide students with training lower in quality than that provided by college preparatory programs?

114. Outcome Question: Do vocational students experience self-diminishing failure less often than do general/academic students because vocational programs are tailored to meet the student's individual needs and abilities and are organized to ensure success?

115. Outcome Question: Does participation in vocational programs on the high school level contribute measurably to the moral development of students?

116. Outcome Question: As a result of their participation in vocational programs at all school levels, do students respond well to teachers on the level of personal relations since they have shared interests in the particular vocational program?

117. Outcome Question: Does participation in vocational programs motivate students to stay in school?

118. Outcome Question: Does participation in vocational programs result in students learning to take pride in their work?

119. Outcome Question: Through participation in vocational programs, do students become aware of the means by which they can continue their learning outside of the formal system of schooling?

120. Outcome Question: By participating in vocational programs do students learn technical skills which provide them many consumer benefits?

121. Outcome Question: Does participation in vocational programs afford students training in consumer education as part of the total instructional program?

122. Outcome Question: Does participation in vocational programs enable students to become more efficient in their use of external resources?

123. Outcome Question: Does participation in vocational programs contribute to the student's development of personal economic stability?

124. Outcome Question: Does participation in vocational programs develop in students new material wants and needs and in so doing, develop heightened expectations concerning the students' abilities to satisfy these wants and needs after program completion?

125. Outcome Question: Does participation in vocational programs develop in students a higher sense of personal growth and significance derived from working in occupations of their own choosing?

126. Outcome Question: Does participation in vocational programs acquaint students with the scientific and social bases and learnings of their occupational pursuits such that they will not inevitably sink to the role of appendages to the machines they operate?

127. Outcome Question: Do vocational program participants become or remain more alienated from the society in which they live than comparable general/academic students?

128. Outcome Question: Does participation in vocational programs result in students becoming or remaining more alienated from themselves than do comparable academic students?

129. Outcome Question: Does participation in vocational programs prepare students to work independently, thereby reducing the need for constant supervision and/or instruction?

130. Outcome Question: Do students in vocational programs become increasingly responsible by executing specific work tasks assigned as training experiences?

131. Outcome Question: Do students in vocational education learn teamwork and leadership skills by pursuing interdependent activities with collective goals as training experiences?

132. Outcome Question: Does participation in vocational programs enable students to form sound judgments with regard to career-related choices?

133. Outcome Question: Does participation in a vocational program lead students, through their group task assignments, to tolerate and appreciate differences in opinions and/or strategies for problem solution?

134. Outcome Question: Does participation in a vocational program develop within its students a greater capacity to organize and utilize their intellectual resources for problem-solving than participation in a matched cohort of general/academic students?

135. Outcome Question: Do students, as a result of participation in vocational courses based on self-teaching perform better in original and self-expressive activities, indicating facility with inventive thinking that explores original and/or alternative solutions to problems?

136. Outcome Question: Does participating in a vocational program develop in students the ability to evaluate ideas, situations, or data in terms of meaningful criteria, both objective and subjective?

137. Outcome Question: Does participation in vocational programs help students improve their communication skills, e.g., receiving and transmitting messages, receiving and interpreting information, getting a point across to listeners?

138. Outcome Question: Do vocational programs, by socializing individuals into the mainstream culture, create and/or reinforce their desire to establish and maintain a stable family life?

139. Outcome Question: Does participation in vocational programs develop in students improved self-identity, self-esteem, and self-confidence?

140. Outcome Question: Do students through participation in vocational programs become steretoyped as "underachievers" or as persons who cannot succeed in a college-preparatory program?

141. Outcome Question: Do students through participation in vocational programs develop attitudes which lead them to accept some regimentation on the job?

142. Outcome Question: Does participation in vocational programs lead students to develop good interpersonal relationships with persons of different ages, subcultures, and social classes?

143. Outcome Question: Do vocational programs reinforce racial prejudice among students in public education?

144. Outcome Question: Does participation in vocational programs develop within students the desire and ability to integrate their occupational pursuits with their cultural, philosophical, and intellectual interests?

145. Outcome Question: Does participation in vocational programs lead students to an understanding of the complexity of the industrial and post-industrial system?

146. Outcome Question: Do students, as a result of their participation in vocational programs, develop informed opinions about complex social, economic, and political issues arising in industrial society?

147. Outcome Question: Does participation in vocational programs lead students to participate actively in civic affairs and political life because of self-confidence acquired in school?

148. Outcome Question: Do students, through participation in a vocational program, develop knowledge and appreciation of their rights and duties as a citizen?

149. Outcome Question: Does vocational education strengthen parental support for particular vocational programs by involving the parents in the development and implementation of career guidance programs?

150. Outcome Question: Has vocational education generated more approval and satisfaction among parents regarding its curricula than have general/academic schools?

151. Outcome Question: Does participation in vocational programs improve the ability of students to identify and clarify their personal values?

152. Outcome Question: Does participation in vocational programs develop in students a greater awareness of historical events affecting the present industrial work system?

153. Outcome Question: Does participation in vocational programs create in students a sense of intrinsic reward and pleasure resulting from their involvement in a specific occupational activity?

154. Outcome Question: Does participation in vocational programs develop in students an awareness of the personal and financial worth of material possessions which in turn make them more respectful of their own property and that of others?

155. Outcome Question: In Home Economics programs, do students learn about physical health, e.g., the importance of nutrition, personal hygiene, etc., resulting in benefits to themselves and the community?

156. Outcome Question: Does participation in vocational programs increase student motivation for both educational and occupational achievement?

157. Outcome Question: Are vocational education teachers, counselors and administrators successful in expanding the career horizons of their students beyond sex-stereotyped roles?

158. Outcome Question: Does participation in vocational programs result in higher rates of labor-union membership for former vocational students as compared with those for graduates of general/academic programs?

159. Outcome Question: Does participation in vocational programs result in vocational students having more positive attitudes toward labor unions than comparable general/academic students?

B. OUTCOME QUESTIONS HAVING SOCIAL INSTITUTIONS OR SOCIETY-IN-GENERAL AS THE AFFECTED ENTITIES;

(1) RELATED DIRECTLY TO ECONOMIC SPHERE

160. Outcome Question: Does vocational education, through consultative services, help small businesses in urban areas remain in operation; thereby maintaining jobs and creating new ones?

161. Outcome Question: Does vocational education influence job creation by interacting with those developments that create jobs, e.g., the training of oil well drillers?

162. Outcome Question: Does the establishment of vocational education systems provide benefits in the form of jobs for suppliers of equipment and job-support services used in vocational education?

163. Outcome Question: To what extent does vocational education benefit society by providing jobs for teachers, administrators, and other vocational staff?

164. Outcome Question: Does the ongoing existence of vocational programs lead to a more equitable distribution of the nation's income with earnings based on worker productivity?

165. Outcome Question: Does the establishment of a vocational education system cause new risk capital to be attracted to the state, thereby strengthening the economy?

166. Outcome Question: Has the ongoing existence of vocational programs within local communities been a major factor in bringing new industries to the area?

167. Outcome Question: Has one of the major impacts of vocational education been the rationalization of human resources, thereby contributing to the rise in general standards of living?

168. Outcome Question: Does the ongoing existence of a vocational program free business and industrial resources by supplying trained employees at less cost than that business and industry would incur in training a work force?

169. Outcome Question: Does vocational education, through lack of planning, contribute to oversupply of manpower in some occupational areas and undersupply in others?

170. Outcome Question: Does the ongoing existence of a vocational education system significantly strengthen the manpower base of the local and state economy?

171. Outcome Question: Do vocational programs respond to and meet the emerging manpower needs at the local, state, and national levels?

172. Outcome Question: Does the establishment of vocational programs speed up industrial development at the local, regional, state, and national levels?

173. Outcome Question: Has the ongoing existence of vocational education improved the tradeoff between unemployment and inflation?

174. Outcome Question: When job opportunities for youth are very limited, as in a period of economic recession and high unemployment, do the costs of vocational programs exceed the benefits to society?

175. Outcome Question: Given the equipment needs and higher teacher-student ratios, are vocational programs less cost-effective than general/academic programs?

B. OUTCOME QUESTIONS HAVING SOCIAL INSTITUTIONS OR SOCIETY-IN-GENERAL AS THE AFFECTED ENTITIES;

(2) RELATED PREDOMINANTLY TO THE NON-ECONOMIC SPHERE

176. Outcome Question: Has vocational education been an important factor in blurring the demarcation between socioeconomic classes, e.g., because it provides

individuals with skills enabling them to obtain jobs which, although they may be considered "working class," pay wages indistinguishable from those considered "middle class"?

177. Outcome Question: Have vocational programs continually reinforced the stratification of groups along social class lines?

178. Outcome Question: Has vocational education fostered curriculum differentiation resulting in ability grouping, testing, and guidance counseling, which in turn have fostered class segregation within the schools?

179. Outcome Question: Has vocational education fostered curriculum differentiation resulting in ability grouping, testing, and guidance counseling which in turn foster racial segregation within the schools?

180. Outcome Question: Do vocational programs reduce radical political activity in a society insofar as they tend to integrate new and/or alienated segments of the population into the established mainstream of the nation's socioeconomic life?

181. Outcome Question: Has one of the major impacts of vocational programs been the continuous reinforcement of class bias and prejudice among students in public education?

182. Outcome Question: Does establishment of vocational programs result in easing unemployment for the few but in shifting the burden of finding work to other, less fortunate segments of the population?

183. Outcome Question: Has vocational education provided institutions and citizens with an awareness of, information about, and an understanding of the implications of poverty conditions within the community, both socioeconomic and political?

184. Outcome Question: Does the establishment of a vocational program result in a heightened awareness within the community of the importance of developing human resources?

185. Outcome Question: Has vocational education created increased support for general quality education within communities because of the useful social services

it supplies such as providing needed manpower, inculcating acceptable social norms and values, and creating new job opportunities?

186. Outcome Question: Has vocational education been successful in involving community leaders in education through its use of citizen advisory committees?

187. Outcome Question: Does vocational education support and reinforce the social, economic, and political status quo?

188. Outcome Question: Has one of the major impacts of vocational programs been to reorient education toward vocational ends?

189. Outcome Question: Has vocational education contributed to the upgrading of teaching skills through its use of inservice training for vocational teachers?

190. Outcome Question: Does the establishment of vocational-technical schools and community collegs provide more types of adult education to the community?

191. Outcome Question: Does the establishment of a vocational-technical college system result in an expansion of the secondary vocational education system?

192. Outcome Question: Is vocational education, through cooperation with CETA, trade unions, business, industry, and the military, effecting institutional changes in educational delivery systems?

193. Outcome Question: Have the innovative teaching methods in vocational education influenced educational practices in general, e.g., the establishment of open-entry and open-exit programs, grouped ability classes, etc.?

194. Outcome Question: Does the separation characteristic of the relations between vocational and non-vocational or academic students in training carry over to the relations in their teaching careers, thereby severely hindering communication and cooperation between vocational and general/academic programs?

195. Outcome Question: Has vocational education been an important factor in promoting geographic mobility within society by providing skills needed throughout the nation in such areas as computer programming, welding, and secretarial services?

196. Outcome Question: Does participation in vocational programs effectively deter juvenile delinquency insofar as it requires youths to remain under supervised instruction during the day while inculcating a respect for the legal system?

197. Outcome Question: Does participation in the Home Economics curriculum of vocational programs result in actual benefits to home and to society as students receive childcare training?

198. Outcome Question: Does the ongoing existence of vocational programs strengthen the potential for national defense?

199. Outcome Question: Have vocational administrators and educators brought about an improvement in the sex balance of enrollments in and completions of vocational programs as well as of post-program job placement?

200. Outcome Question: Does the existence of vocational education programs in high schools detract from the attention paid to such basic educational subjects as math, reading and writing?

C. OUTCOME QUESTIONS HAVING SPECIAL NEEDS SUBPOPULATIONS (OR MEMBERS THEREOF) AS THE AFFECTED ENTITY;

(1) RELATED DIRECTLY TO ECONOMIC OR OCCUPATIONAL ROLES

201. Outcome Question: Does participation in a vocational program by mature and older workers of both sexes result in the acquisition of skills they need to become competitive in the labor force?

202. Outcome Question: Have many members of special needs sub-populations (racial, ethnic, linguistic minorities, the disadvantaged, etc.) been shunted by vocational education from a track leading to post-secondary educational opportunities onto a track leading to dead-end, low-pay, low-status jobs?

203. Outcome Question: Does participation in vocational programs by many special needs groups help them to become economically independent, thereby reducing the costs to society of institutionalization and/or providing for subsistence?

204. Outcome Question: Does participation in vocational programs increase the earnings of those persons whose hourly wage for full-time employment falls below the federal minimum-wage rate?

205. Outcome Question: Does participation in cooperative programs in vocational education significantly supplement the incomes of disadvantaged youths?

206. Outcome Question: Does participation in vocational training by the educationally and economically disadvantaged tend to reduce structural unemployment?

207. Outcome Question: Does vocational education promote the integration of the educationally and economically disadvantaged into society's occupational structure?

208. Outcome Question: Does establishment of vocational programs promote the development of business ownership by blacks?

209. Outcome Question: Does participation in vocational programs in large cities and in de facto segregated school systems cause blacks and other minorities to receive training in areas requiring lower skills than in those areas of training provided by predominantly white schools?

210. Outcome Question: Do many vocational educators impose training in manual skills on blacks and other minorities by establishing the curriculum so that no other choice or alternative is available?

211. Outcome Question: As a result of the stringent entrance requirements imposed by many vocational programs, are blacks and other minorities sometimes excluded from vocational programs?

212. Outcome Question: Has participation of blacks and other minority groups in vocational training been obstructed because the modern facilities are located in suburbs, outside of urban areas having a high concentration of non-white population?

213. Outcome Question: Does participation of blacks in vocational programs limit their training to areas of traditonally "Negro" employment, e.g., occupations where blacks provide services to other blacks (as in barbering).

214. Outcome Question: Does vocational education contribute to the increased representation of minorities among the leaders in the business community?

215. Outcome Question: Has vocational education promoted opportunities for blacks and other minorities to enter high paying occupations?

216. Outcome Question: Does the existence of vocational programs in high schools foster a dual system of education by tracking lower-class, minority boys into low status programs and in tracking lower-class, minority girls into occupations traditionally female on the one hand and on the other, by tracking middle- and upper-class students of both sexes into academic programs?

217. Outcome Question: Do sex-stereotyping biases of vocational educators and counselors limit women and girls to training for only a narrow range of occupations?

218. Outcome Question: Has participation in vocational programs enabled many women to overcome their early socialization and to obtain skills that qualify them for work in non-traditional occupations?

219. Outcome Question: Does participation in a vocational program prepare the displaced homemaker to become economically and psychologically self-sufficient, free from dependence on federal and state financial-assistance programs?

220. Outcome Question: Do the childcare facilities provided by many adult vocational programs allow women formerly unable to afford training to acquire skills which enable them to earn good salaries?

221. Outcome Question: Are vocational education programs likely to be successfully or unsuccessful with regard to program completion and/or job placement of the mentally retarded?

222. Outcome Question: As a result of the curricula found in prisons, is the vocational training received by female offenders generally limited to the areas of cosmetology and business?

223. Outcome Question: Are the vocational facilities in prison so obsolescent, in such poor condition, and of such poor quality that inmates receive inadequate training for post-prison employment?

224. Outcome Question: By participation in prison vocational programs do inmates acquire skills and work experience only in a narrow occupational area or in an area relevant only to prison maintenance?

225. Outcome Question: Have vocational programs in prisons led to an increase in the incidence of employment of offenders?

226. Outcome Question: Does participation in vocational programs teach Native Americans on small reservations useful techniques for marketing their handicrafts and wares for reasonable financial profits?

227. Outcome Question: To meet the needs of special groups, have vocational programs attempted to adapt the instructural material and facilities used in training regular students to make them effective in training the physically, emotionally, and mentally handicapped?

228. Outcome Question: In their attempts to meet the needs of special groups, have vocational programs organized their curricula so that program options offered regular students are also offered to physically handicapped students?

229. Outcome Question: Has the existence of vocational programs increased the participation of women in the labor force?

230. Outcome Question: Do vocational programs channel information concerning vocational students in such a way that local employers gain a greater awareness of the job capabilities of the handicapped?

C. OUTCOME QUESTIONS HAVING SPECIAL NEEDS SUBPOPULATIONS (OR MEMBERS THEREOF) AS THE AFFECTED ENTITY;

(2) RELATED PREDOMINANTLY TO NON-ECONOMIC ROLES

231. Outcome Question: As a result of participation in vocational programs, do minority group students develop greater capability to assimilate and to adapt to general cultural patterns than similar groups participating in general/academic programs?

232. Outcome Question: Has vocational education been effective in providing access to programs in general and in developing specific types of programs that help equalize the life chances of students with special needs?

233. Outcome Question: Does the ongoing existence of a vocational education system significantly contribute to the equality of educational opportunities for blacks and other minority groups?

234. Outcome Question: In vocational programs where peer counselors and instructors have been recruited, have individuals deficient in motivation and self-image improved in these aspects?

235. Outcome Question: Is the success of minorities in vocational programs often undermined by discriminatory, negative attitudes on the part of vocational educators and counselors?

236. Outcome Question: Do those who differ culturally and linguistically from the main culture experience serious learning and psychological difficulties during training when vocational educators and counselors exhibit insensitivity to these differences?

237. Outcome Question: Are minority students who compare unfavorably with their peers as a result of inappropriate testing often relegated to upgraded vocational centers or special education when with proper testing and counseling, they could progress favorably with their peer group?

238. Outcome Question: Do tests in vocational programs reflecting Caucasian standards and cultures cause minority students (especially those of a linguistic minority) to score unfavorable without reflecting the actual native ability of those tested?

239. Outcome Question: Do many handicapped and/or disadvantaged students who have displayed various antisocial behaviors become less disruptive in the classroom as a result of their participation in vocational courses?

240. Outcome Question: Do disadvantaged youths from a "welfare-ethic" oriented home life acquire motivations and attitudes associated with a "work-ethic" culture due to their participation in vocational programs?

241. Outcome Question: Has vocational education aroused deep resentment among many blacks who consider available programs poor in quality and organized to prepare black youth for traditionally "Negro" jobs?

242. Outcome question: Do vocational programs that train members of special needs groups fail to teach these students how to deal effectively with the social pressures to be confronted in the work world (discrimination, rejection, etc.)?

243. Outcome Question: Do teachers, counselors, and administrators who tend to think in terms of "men's trades" and "women's trades" transfer these perceptions to vocational students?

244. Outcome Question: Does segregation of sexes in vocational programs tend to perpetuate existing conditions of sex inequity with sex-role stereotyping?

245. Outcome Question: When vocational programs place the mentally handicapped and the disadvantaged in the same courses, do the disadvantaged students resent sharing classes with the mentally retarded?

246. Outcome Question: Are extracurricular activities associated with vocational programs, e.g., youth organizations, organized to allow full participation by physically handicapped students?

247. Outcome Question: Does participation in vocational courses foster deculturalization of Native Americans?

248. Outcome Question: Does vocational education increase the quantity and quality of political skills, e.g., gathering information to support legislation, lobbying, voting, etc., among those who are concerned with programs for special groups.

249. Outcome Question: Is it the case that in many states the unique problems of disadvantaged and handicapped students enrolled in vocational programs are not met because of deficient teacher-certification requirements?

250. Outcome Question: Do the needs of disadvantaged populations go unmet because vocational education administrators apply the term "disadvantaged" in such a way that resources intended for the disadvantaged are actually used for the general student population?

251. Outcome Question: Does participation in vocational programs by special need students result in more tasks completed by students with greater confidence, improved atterdance and punctuality at school, and growth in personal independence?

252. Outcome Question: Does participation in vocational education programs provide the elderly with occupational skills that better enable them to lead independent lives?

## INDEX OF SPECIFIC TOPICS

The outcome questions in the compendium (Section II) have been numbered for identification sequentially beginning with #1 and extending to #252. Although it is hoped that most of the major topics relevant to vocational education are included in the index, it is not exhaustive with regard to the possible topics that could have been included. Lastly, topics have been cross-referenced where it seemed advisable and/or appropriate. The major topic headings are arranged in alphabetical order, followed by the identification numbers preceding each outcome question in the compendium. For example, if the earnings of vocational students is the topic of interest, a reader would find "earnings" entered in the index in the following way:

Earnings, of vocational students, 44, 45, 94, 95, 96, 97 . . . .

The reader can then refer to the outcome questions having the identification numbers listed after the topic. We have not exhaustively listed every outcome question potentially related to a specific topic. In obvious cases this has been represented by a series of periods following the last identification number listed. For example, given the large number of questions dealing with "general academic school programs" general academic programs has been entered as below:

General academic programs, 3, 5, 6, 7, 11, 17, . . . .

The reader is encouraged to scan the list to insure that all outcome questions relevant to the topic of interest have been noticed.

In some cases our sample of outcome questions lacked an entry for topics that are of concern to individuals interested in vocational education. Whenever appropriate, we have included these topics in the index and referred the reader to outcome questions that could be formulated so as to be applicable to those topics. For example, we have no outcome questions that specifically addresses vocational students who are migrants. Nevertheless, "migrants" is a topic included in the index in the following manner:

Migrants, 202x, 203x, 205x, 206x, 207x, 208x, 231x . . .

Outcome question #231x asks "Does participation in vocational programs develop within students who belong to minority groups

a greater capability to assimilate and to adapt to the general cultural patterns of the community . . . ." Although the question refers to minority students rather than to students who are migrants, it could serve as an hypothesis about migrant students as well. In this way we hope to generate some thought about possible outcomes that while not included in our list of outcome questions, may nevertheless be important.


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